

REMARKS

In the Official Action, the Examiner rejected claims 1-12, 17-19, 21-24, 29, 30, 52, 53, 57, 58, and 61-63 and objected to claims 13, 14, 20, 27, 28, 31-34, 54-56, 59, and 60. The Examiner also indicated claims 13, 14, 20, 27, 28, 31-34, 54-56, 59 and 60 as allowable if rewritten in independent form. Applicants also note that the Examiner did not provide a substantive rejection of claim 9, 10, 17, 58, and 61-63 in the body of the Office Action. Although the Examiner noted claim 9, 10, 17, 58, and 61-63 as rejected in the Office Action Summary, the Examiner provided no reasons for rejection in the following Detailed Action. For this reason, Applicants believe a Final Office Action would be improper in the next Official Action by the Examiner. Turning to the present Amendment and Response, the Applicants amended claims 52 and 53 to clarify certain features and to expedite allowance of the present application. No new matter has been added by these amendments. Applicants respectfully request reconsideration and allowance of the pending claims in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1, 3-6, 11-12, 18, 19, 24, 29, 30, 52 and 53 under U.S.C. § 102(b) as anticipated by Jackson, U.S. Patent No. 4,290,181 (hereinafter Jackson). Applicants respectfully traverse this rejection.

Anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every limitation of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Accordingly, the Applicants need only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter. The prior art reference also must show the *identical* invention “*in as complete detail as*

contained in the ... claim” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Additionally, if the Examiner relies on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) (Emphasis Added). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. *Id.* In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.* Regarding functional limitations, the Examiner must evaluate and consider the functional limitation, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. *See* M.P.E.P. § 2173.05(g); *In re Swinehart*, 169 U.S.P.Q. 226, 229 (CCPA 1971); *In re Schreiber*, 44 U.S.P.Q.2d 1429, 1432 (Fed. Cir. 1997). If the Examiner believes the functional limitation to be inherent in the cited reference, then the Examiner “must provide some evidence or scientific reasoning to establish the reasonableness of the examiner’s belief that the functional limitation is an inherent characteristic of the prior art.” *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Inter. 1986).

Independent Claim 1:

Claim 1 recites, “*centering* the studded ball within the desired structure, wherein centering comprises abutting *first and second centering portions* of first and second mold structures against the desired structure and the studded ball, respectively.” In sharp contrast, Jackson discloses a *single* positioning fixture 40 adapted to hold the ball 36 in the desired spaced position within the cavity 22 of the housing 12. *See* Col. 2, lines 38-53. As illustrated in Fig. 4, the positioning fixture 40 includes a housing engaging portion 42 and a ball engaging portion 44. *See* Fig. 4; Col. 2, lines 38-53. However, these portions 42 and 44 are part of a *single* positioning fixture 40, rather than first and second centering portions of first and second mold

structures, as recited in the instant claim. In view of this deficiency, independent claim 1 is believed to be patentable over the Jackson reference. Claims 3-6, 11, 12, 18, and 19 are also believed to be patentable over the cited reference by way of their dependencies on independent claim 1 and by way of further unique features recited in each respective claim.

Independent Claim 24:

Claim 24 recites, “centering the studded ball within the support structure, wherein centering comprises abutting first and second centering portions of a symmetrical mold assembly against the support structure and the studded ball, respectively.” As discussed above, the cited reference sharply contrasts the foregoing in that Jackson discloses a *single* positioning fixture 40 adapted to hold the ball 36 in the desired spaced position within the cavity 22 of the housing 12. *See* Col. 2, lines 38-53. Again, the positioning fixture 40 includes a housing engaging portion 42 and a ball engaging portion 44, yet these portions are *integral* (rather than separate) portions of a *single* positioning fixture 40. *See* Fig. 4; Col. 2, lines 38-53. Accordingly, the cited reference fails to teach centering by abutting *first and second* centering portions of a symmetrical mold *assembly* against the support structure and the studded ball, as recited in the instant claim. In view of this deficiency, independent claim 24 is believed to be patentable over the Jackson reference. Claims 29 and 30 are also believed to be patentable over the cited reference by way of their dependencies on independent claim 24 and by way of further unique features recited in each respective claim

Independent Claim 52:

Claim 52 recites, “centering a studded ball; *independently* centering a desired structure relative to the studded ball.” Again, Jackson discloses only a *single, integral* positioning fixture 40 adapted to hold the ball 36 in the desired spaced position within the cavity 22 of the housing 12. *See* Col. 2, lines 38-53. The housing engaging portion 42 and the ball engaging portion 44 are *both integral structures* of the *single* positioning fixture 40, thereby precluding the possibility of centering and independently centering, as set forth in the instant claim. *See* Fig. 4; Col. 2, lines 38-53. In view of this deficiency, independent claim 52 is believed to be patentable over the Jackson reference. Claim 53 is also believed to be patentable over the cited reference by way of its dependency on independent claim 52 and by way of further unique features recited therein.

For these reasons, the Applicants respectfully request the Examiner withdraw the rejection of the foregoing claims under 35 U.S.C. § 102.

Claim Rejections – 35 U.S.C. § 103(a)

In the Office Action, the Examiner rejected claims 2, 7-8, 21-23, 56, and 57 under 35 U.S.C. § 103(a) as unpatentable over Jackson, U.S. Patent No. 4,290,181, in view of various secondary references. As discussed below, Applicants respectfully traverse these rejections.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). If the Examiner combines the teachings of the prior art to produce the claimed invention, a *prima facie* case of obviousness cannot be established absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Claims 2, 21-23, and 56

The Examiner rejected dependent claims 2, 21-23, and 56 under 35 U.S.C. § 103(a) as obvious over Jackson in view of Runyan et al., U.S. Patent No. 4,430,285. Applicants respectfully traverse this rejection. These claims all depend from one of the independent claims 1 and 52. As discussed in detail above, the Jackson reference does not teach each and every element of these independent claims. In the Office Action, the Examiner stated:

The cited primary reference does not set forth molding of the ball stud in place.

The cited secondary reference teaches the basic claimed process of molding a ball stud assembly.

Paper 7, page 4. Accordingly, the Examiner relied on the secondary Runyan et al. reference solely for the features recited in these dependent claims. However, the Runyan et al. reference does not obviate the deficiencies of the primary Jackson reference.

Also, the Applicants stress the lack of any suggestion or motivation to combine the cited references. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983); M.P.E.P. § 2145. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959); see M.P.E.P. § 2143.01.

Turning to the cited references, the Jackson reference teaches injecting a plastic *bearing* material 16 into the cavity 22 between the ball 36 and the housing 12. *See* Col. 2, lines 58-65. This injected *bearing* material 16 is then allowed to harden. *See id.* In operation, the plastic *bearing* material 16 provides a *bearing* surface for the ball 36. *See id.* In sharp contrast, the Runyan et al. reference teaches injecting a molten *housing* material into a cavity 32 in contact with a shield 30, which extends around a ball 14. *See* Abstract; Col. 3, lines 20-41. Runyan et al. clearly teach away from injecting the molten housing material directly onto the ball 14. *See* Col. 1, line 9 – Col. 2, line 19. Applicants emphasize that the Examiner's proposed combination of Jackson and Runyan et al. would completely change the principle of operation of each respective reference. For example, the *shield* 30 of Runyan et al. would defeat the function of the plastic *bearing* material 16 disposed directly about the ball 36 of Jackson. Accordingly, this combination of references cannot stand.

In view of these deficiencies, Applicants respectfully request the Examiner withdraw the rejection of claims 2, 21-23, and 56 under 35 U.S.C. § 103.

Claim 57

The Examiner rejected dependent claim 57 under 35 U.S.C. § 103(a) as obvious over Jackson in view of Jackson et al., U.S. Patent No. 6,010,271. Applicants respectfully traverse this rejection. This claim depends from independent claim 52. As discussed in detail above, the primary Jackson reference does not teach each and every element of these independent claims. In the Office Action, the Examiner stated:

The cited primary reference does not set forth a spring structure within the housing structure.

The added reference teaches placing a coil (34) within the open housing structure (12), providing a ball within the structure. See claim 1 and col. 2, lines 60-68.

Paper 7, page 5. Accordingly, the Examiner relies on the secondary Jackson et al. reference solely for the features recited in this dependent claim. However, the Jackson et al. reference does not obviate the deficiencies of the primary Jackson reference.

Also, the Applicants stress the lack of any suggestion or motivation to combine the cited references. The Jackson et al. reference teaches that a “metal spiral coil spring 34 is compressed against the circular end wall 14 of the housing 12 by the inner bearing 32.” See Col. 2, lines 61-63. However, the Examiner has not provided any reason why such a spring 34 would or could be applied to a molding process. The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). In the present rejection, the Examiner combined the primary and secondary Jackson references based on the *conclusory and subjective statement* that the spring structure could provide a biasing pressure means on the ball member, yet the Examiner provided no reasoning as to why such a combination would or could be made. Accordingly, Applicants challenge the Examiner to produce objective evidence supporting the Examiner’s alleged reason to combine the cited references.

In view of this deficiency, Applicants respectfully request the Examiner withdraw the rejection of claim 57 under 35 U.S.C. § 103.

Claims 7-8

The Examiner also rejected claims 7-8 under 35 U.S.C. § 103(a) as obvious over Jackson in view of Borgen et al., U.S. Patent No. 4,439,909. Applicants respectfully traverse this rejection.

The Applicants respectfully traverse these rejections for the following reasons. First, as discussed in detail below, the cited references do not teach or suggest certain features recited by the present claims. Specifically, independent claim 7 recites, *inter alia*, “creating a temperature differential in which the *studded ball is hotter than the desired structure*.” Neither the Jackson reference nor the Borgen et al. reference teaches such temperature differentials. Second, the Examiner has not provided a valid suggestion or motivation to combine the references. In fact, the Borgen et al. reference teaches away from the Jackson reference.

First, the Examiner acknowledged that Jackson “does not show the claimed step of creating a temperature differential between the housing structure and the ball stud.” Paper No. 7, Page 6. In view of the deficiencies of Jackson, the Examiner turned to Borgen et al. for a teaching of “preheating a housing structure and force fitting the structure around a ball stud.” *Id.* However, the Borgen et al. reference does not teach creating a temperature differential in which the studded ball is *hotter* than the desired structure. Instead, the Borgen et al. reference teaches a “preheated socket ... and a melt-in-place plastic socket liner which melts on forced contact with the heated socket.” *See* Abstract. The Borgen et al. reference thus teaches the *opposite temperature differential* of what is disclosed by the Applicant.

In the Office Action, the Examiner stated:

The added reference shows heating the housing structure; note that heating of the ball would have been obvious also as heating of either structure would *equivalently* achieve the desired temperature differential.

Paper No. 7, Page 6. Applicants stress that in order to rely on equivalence as a rational supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant’s disclosure or the mere fact that the components at issue are functional or mechanical equivalents. *In re Ruff*, 256 F.2d 590, 118 U.S.P.Q. 340 (CCPA 1958);

see also M.P.E.P. § 2144.06. Accordingly, if the Examiner believes that certain features and/or equivalents are well known in the prior art, then the Applicants hereby seasonably traverse and challenge the Examiner's position and request evidence in support of the Examiner's position as soon as practicable during prosecution. *See* M.P.E.P. § 2144.03 and § 2144.06.

Second, the Applicants emphasize the lack of any motivation or suggestion to combine the references. In the Office Action, the Examiner stated:

It would have been obvious to one of ordinary skill in the art to create a temperature differential as shown in the added reference, when performing the process set forth in the primary reference, for forming a structure with a tight fit.

Paper No. 7, Page 6. Again, Applicants emphasize that the Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). In the present rejection, the Examiner combined the Jackson and Borgen et al. references based on the *conclusory and subjective statement* that the preheated housing of Borgen et al. *could* provide a tight fit of the ball and socket of Jackson, yet the Examiner provided no reasoning as to why such a combination would or could be made. Turning to the cited references, the Jackson reference teaches *injecting* a plastic bearing material 16 through an injection fitting 56 into the cavity 22 of the housing 12. *See* Col. 2, lines 58-65. This *injected* material 16 is then allowed to harden. *See id.* In sharp contrast, the Borgen et al. reference teaches *heating a socket to melt* a liner 18 and then allowing the *melted* liner 18 to harden. *See* Abstract; Col. 1, lines 18-33; Col. 2, line 56 – Col. 3, line 12. No injection is performed by Borgen et al. In fact, the two references teach two completely different principles of operation, i.e., injection molding versus melting a liner. Applicants emphasize that the Examiner's proposed combination of Jackson and Borgen et al. would change the principle of operation of each respective reference. Accordingly, this combination of references cannot stand.

Therefore, the Applicants respectfully request the Examiner withdraw the rejection of claims 7-8 under 35 U.S.C. § 103.

Allowable Subject Matter

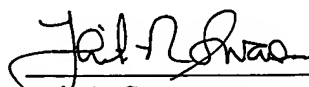
As noted above, the Examiner indicated claims 13, 14, 20, 27, 28, 31-34, 54-56, 59 and 60 as allowable if rewritten in independent form. Claims 13, 14 and 20 are dependent upon claim 1. Claims 27, 28 and 31-34 are dependent upon claim 24. Claims 54-56 are dependent upon claim 52. Claim 59 is already in independent form. Claim 60 is dependent upon claim 59. In view of the reasons set forth above, Applicants believe all claims are currently in condition for allowance. Accordingly, Applicants have not placed any of the foregoing dependent claims in independent form. However, Applicants are willing to rewrite some of these claims in independent form to expedite allowance of the present application at a future date.

Conclusion

The Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

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